

FLEXIBLE TRACK DRILLING MACHINE

ABSTRACT OF THE DISCLOSURE

5 A flexible track drilling machine employs a pair of rails that are flexible in one direction to conform to a non-flat workpiece surface and are substantially stiff in a direction parallel to the workpiece surface. The rails are attached to the workpiece by vacuum cups spaced along each rail. An X-axis carriage is slidably mounted on the rails by rollers mounted on flexible spring plates affixed to the carriage. A drill or other device to be positioned is mounted on a Y-axis carriage that is slidably connected to the X-axis carriage. The three-dimensional surface of the workpiece is mathematically transformed into a two-dimensional flat pattern, and the positioning of the carriages is controlled based on the flat pattern.

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